

- Group V: Claims 40-54, drawn to a method of producing a holophytochrome;
- Group VI: Claims 55-69, drawn to a cell comprising a heme oxygenase, an apophytochrome and a reductase; and
- Group VII: Claims 70-79, drawn to DNA comprising a heme oxidoreductase and a bilin reductase.

**In response to this restriction requirement, Applicants provisionally elect Group III, claims 33-38 with traverse.**

In addition, the Examiner required an election of species. In particular, the Examiner requested that Applicants elect one bilin reductase for examination at this time.

Applicants understand this to be an election of species rather than a restriction because the Examiner failed to identify Groups and particular claims directed to each restricted bilin reductase as required by M.P.E.P. §817.

**In response to this election of species, Applicants elect HY2, e.g. as shown in**

**Figure 3.**

Applicants further recognize that, per MPEP §809.02(c), to the extent all species fall within the limitations of a generic claim ultimately determined to be patentable, the non-elected species will no longer be deemed to be withdrawn and claims to the additional non-elected species will be considered by the Examiner. With respect to the listing of claims readable on the elected species, Applicants note that claims 33-38 are readable on the elected species.

Applicants also submit that restriction between Groups I and III is unnecessary. According to MPEP §803, the Examiner should examine all claims in an application, even though they are directed to distinct inventions, unless to do so would create a serious burden. In the instant case, the claims of Group I are drawn to bilin reductases, while the claims of Group III are drawn to nucleic acids encoding bilin reductases and to cells comprising such nucleic acids.

A search for nucleic acids encoding bilin reductases, is expected to identify prior art, if it exists, relevant to the bilin reductases (e.g. proteins encoded by such nucleic acids). Thus, a search for art relevant to Groups I and III together entails no greater burden than a search for art relevant to Group III alone. Accordingly, Examination of Groups I and III together entails no serious burden and the restriction between these groups should be withdrawn.

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If a telephone conference would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (510) 769-3513.

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Respectfully submitted,



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